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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/669,297	09/23/2003	Leonid Grigorian	23085-07262	4653

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EXAMINER

LANGEL, WAYNE A

ART UNIT	PAPER NUMBER
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1754

DATE MAILED: 05/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/669,297	GRIGORIAN, LEONID	
	Examiner	Art Unit	
	Wayne Langel	1754	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 9-23-03 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2-9-04</u> . | 6) <input type="checkbox"/> Other: ____. |

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The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 8-18 and 22-24 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over WO 99/67193. WO 99/67193 discloses a method for producing hydrogen by reacting hydrocarbons with iodine at a temperature of 400-1200 C. (See the Abstract.)

Claims 2-7 and 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 99/67193. WO 99/67193 is relied upon as discussed hereinbefore. It would be prima facie obvious to employ a cycloalkane or an aryl compound as the hydrocarbon in the process of WO 99/67193, since one of ordinary skill in the art would expect that any hydrocarbon would function as a reactant.

Claims 1, 16 and 17 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over JP 10-25101. JP 10-25101 discloses a method wherein a hydrocarbon is contacted with a halogen such as iodine. (See the English Abstract.) The claims are considered to be anticipated by JP 10-025101, since the reference specifically discloses iodine as a halogen which may be

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used, albeit in a non-preferred sense. In any event, it would be obvious to employ iodine as the halogen, since it is well-settled that non-preferred embodiments constitute teachings upon which a case of prima facie obviousness may be based.

Claims 8-15 and 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 10-25101. JP 10-25101 is relied upon as discussed hereinbefore. The limitations recited in claims 8-15 and 22-24 would be prima facie obvious over JP 10-25101, since it would be within the skill of one of ordinary skill in the art to optimize such parameters as temperature and hydrocarbon/iodine ratio.

Claims 1 and 10-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Korotkikh et al or Ruettinger et al. Korotkikh et al and Ruettinger et al both disclose methods in which a hydrocarbon is contacted with a halogen as a catalyst poison. (See Paragraphs [0108] and [0112] of Ruettinger et al, and Paragraph [0062] of Korotkikh et al.) It would be prima facie obvious to provide iodine as the catalyst poison, since the references would suggest that any halogen would poison the catalyst.

Claims 11, 13-15, 19 and 25-32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 11, it is indefinite as to whether the temperature may be greater than about 100 C, or only greater than about 80 C but not greater than 100 C. In claim 13, "exposing providing" is indefinite. In claim 19, "selected from the group consisting of... or" is improper Markush terminology. In

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claim 16, there is no antecedent basis for "a hydrogen gas generator of claim 16", since claim 16 does not recite a hydrogen gas generator.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wayne Langel whose telephone number is 571-272-1353. The examiner can normally be reached on Monday through Friday, 8 am - 3:30 pm Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on 571-272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Wayne Langel
Primary Examiner
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